

12V Li-ion Cordless Angle Grinder T12VAG



User Manual — Please read and retain for future reference.

IMPORTANT: Read all instructions before use.

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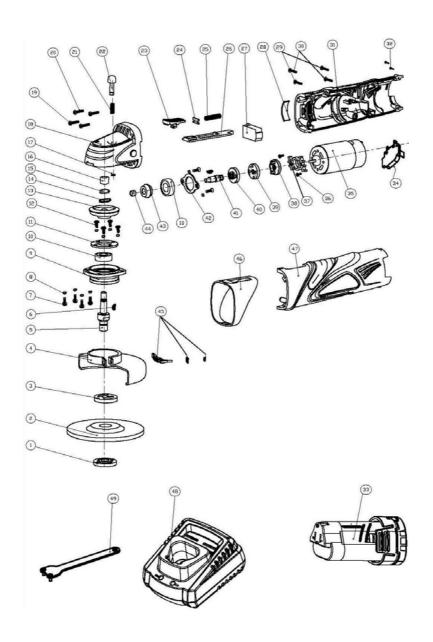
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Parts List

No.	Description	No.	Description
1	upper flange	26	link
2	100mm disc	27	Micro switch
3	lower flange	28	rubber strip
4	grinding guard	29	screw st3x25
5	output spindle	30	screw st3.20
6	woodruff key ø10x2.5	31	right housing
7	screw m4x10	32	screw st2.2x10
8	spring washerø4	33	12v li-ion battery pack
9	front cover	34	connector holder
10	608 bearing	35	Armature
11	retainer plate	36	screw m3x6
12	screw m4x8	37	armature support
13	big gear	38	flange b
14	wave washer 08	39	rubber flange
15	circlip for shaft 8	40	flange a
16	needle bearing	41	shaft
17	ring ø0.8xø5	42	bearing cover a
18	reducer case	43	small gear
19	screw st3x14	44	sliding bearing ø5xø7x5
20	screw st3x20	45	fast-load lever parts
21	spring	46	mag-sleeve
22	brake pin	47	left housing
23	Trigger	48	12v fast charger
24	Blocker	49	spanner
25	Spring		

Exploded Assembly Diagram



NOTICE: Actual product may vary from pictures shown.



Fig.1

- 1. Wheel Guard
- 2. Quick Release Lever
- 3. Grinding Wheel
- 4. Spindle Lock
- 5. Switch Button
- 6. Battery Pack
- 7. Charger



Fig.2

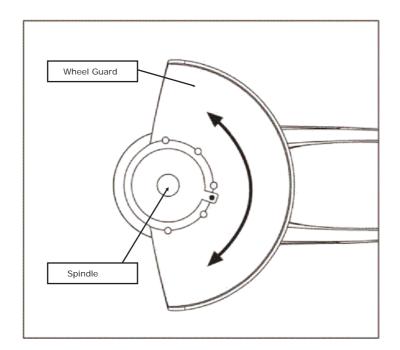


Fig.3

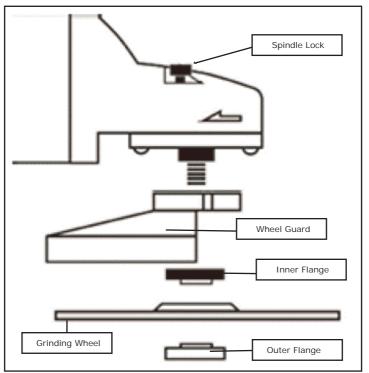


Fig.4

Technical Information

Model: T12VAG
Rated Voltage: 12V DC
No-load Speed: 7000 /min
Max. Disc diameter: 100 mm
Mounting Spindle threads: M10

Battery Type: 1300 mAh Li-ion

Charger

Charging time: 1 hour

Input: 100-240V AC, 50 – 60 Hz, 27W

Output: 12.6V DC, 1500mA Max

Read this entire manual before using this product. Failure to do so can result in serious injury. Save this manual for future reference.

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Read and Keep This Manual

Please read carefully all instructions within this manual. Failure to follow all safety warnings can result in serious personal injury. The term "Power Tool" in all of the following warnings refers to your mains operated (corded) or battery operated (cordless) power tool.

Important SAFETY Information

This symbol is to warn you of potential personal injury hazards. Please read carefully the notes along side this warning to avoid possible injury or death.

General Safety Rules

WARNING! Read all instructions. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury. The term "power tool" in all of the warnings listed refers to corded or cordless power tools.

Work area safety

Keep work area clean and well lit. Cluttered or dark areas invite accidents.

Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust. Power tools create sparks which may ignite the dust or fumes. Keep children and bystanders away while operating a power tool. Distractions can cause you to lose control.

Electrical safety

Before use, ensure that the power outlet you are using matches the plug on your power tool and that the voltage of the outlet matches that of your power tool.

Only use grounded extension cords with power tools fitted with 3 pin plugs and if using outdoors ensure any extension cord is suitable for outdoor use.

Always try to avoid body contact with grounded surfaces, such as radiators, cooking ranges and any other fixed appliance with metal surfaces.

Do not expose your power tool to wet or damp conditions and NEVER use in rain.

Check regularly the power cord of your machine and any extension cord that you are using for damage.

Do not carry or pull the machine with the power cord.

Ensure the cord is clear from hot surfaces, oil or sharp objects.

Personal safety

Never use your power tool whilst under the influence of alcohol, drugs or medication.

Tiredness can often cause accidents, stay alert.

Never use your power tool without the correct guards in place.

Always use approved eye protection and dust mask. Non slip safety shoes and hearing protectors should be worn at all times when using your power tool.

Ensure any dust collecting device supplied with your machine is connected correctly before use.

Ensure all loose clothing, long hair or jewelry is kept clear of the machine.

Before plugging your power tool into the power outlet ensure the power tool is in the OFF position.

Check that wrenches or adjusting keys have been removed. Any wrench or key left attached to a moving part can result in injury.

Power tool use and care.

Keep your power tool clean and well serviced at all times.

Never adjust or service any power tool before disconnecting from the mains electricity supply. Always use the correct tool for the job.

Never force the tool to work harder than it is designed to do.

Never use your power tool with broken parts such as switches, guide fences or leg stands.

ALWAYS keep your power tools away from children.

Keep cutting tools sharp to ensure less stress on the motor.

Only have your power tool serviced by a qualified repair agent using manufacturers recommended parts.

Service

plastic parts.

Have your power tool serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the power tool is maintained. Develop a periodic maintenance schedule for your tool. When cleaning a tool be careful not to disassemble any portion of the tool since internal wires may be misplaced or pinched or safety guard return springs may be improperly mounted. Certain cleaning agents such as gasoline, carbon tetrachloride, ammonia, etc. may damage

When servicing a tool, use only identical replacement parts. Follow instructions in the Maintenance section of this manual. Use of unauthorized parts or failure to follow Maintenance Instructions may create a risk of electric shock or injury.

WARNING: For your own safety read Instruction Manual before operating your power tool.

- A) Wear eye protection.
- B) Keep hands out of the path of cutting tools.
- C) Do not operate tool without guards in place.
- D) Do not perform any operation freehand.
- E) Never reach around cutting tools.
- F) Turn off tool and wait for cutting tools to stop before moving work piece or changing settings.
- G) Disconnect power (or unplug tool) before changing cutting tools or servicing.

GENERAL SAFETY INSTRUCTIONS

Read this owner's manual completely and make sure you understand all of its safety guidelines.

- 1. **KEEP GUARDS IN PLACE** and in working order.
- **2. REMOVE ADJUSTING KEYS & WRENCHES.** Before turning on the power tool, make sure the keys and adjusting wrenches have been removed.
- 3. KEEP WORK AREA CLEAN. Cluttered areas and benches invite accidents.
- **4. ALWAYS REMAIN ALERT WHEN THE TOOL IS IN USE.** Inattention on the part of the operator may lead to serious injury.
- **5. DON'T USE IN A DANGEROUS ENVIRONMENT.** Don't use power tools in damp or wet locations or expose them to rain. Keep work area well lit.
- 6. KEEP CHILDREN AWAY. All visitors should remain at a safe distance from work area.
- **7. MAKE WORKSHOP CHILD-PROOF** with padlocks, master switches or by removing starter keys.
- **8. USE THE RIGHT TOOL.** Don't force a tool or attachment to do a job for which it was not designed.

- 9. **USE THE PROPER EXTENSION CORD.** Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.
- 10. **DON'T FORCE THE TOOL.** It has been designed to operate at maximum safety and performance levels.
- 11. DO NOT FORCE THE MATERIAL BEING CUT. Always let the tool cut at its own speed.
- 12. **WEAR PROPER APPAREL.** Do not wear loose clothing, neckties, rings, bracelets or other jewelry which may get caught in moving parts. Non-slip foot wear is recommended. Wear protective hair covering if you have long hair.
- 13. **ALWAYS USE SAFETY GLASSES.** Also use face or dust mask for commercial cutting operations. Everyday eyeglasses only have impact-resistant lenses, they are NOT safety glasses.
- 14. **SECURE WORK.** Use clamps or a vise instead of your hand to hold work when practical. This safetyprecaution allows for proper tool operation using both hands.
- 15. **DON'T OVERREACH.** Keep proper footing and balance at all times.
- 16. **MAINTAIN TOOLS WITH CARE**. Keep tools clean and in good working condition for maximum safety performance. Follow instructions for lubricating and changing accessories.
- 17. **DISCONNECT TOOLS BEFORE SERVICING** when changing accessories, such as blades, bits, cutters, etc.
- 18. **REDUCE THE RISK OF UNINTENTIONAL STARTING.** Make sure switch is in OFF position before plugging in.
- 19. **USE RECOMMENDED ACCESSORIES.** Consult the owner's manual for recommended accessories. The use of improper accessories may increase risk of injury.
- 20. MAKE SURE YOU USE THE CORRECT TOOL for the job you are doing.
- 21. **NEVER STAND ON TOOL.** Serious injury could occur if the tool is tipped or if the cutting tool is unintentionally contacted.
- 22. **CHECK DAMAGED PARTS.** Before further use of the tool, damaged part(s), (i.e., guard) should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting and any other condition that may affect the tools operation. A guard or other part that is damaged should be properly repaired or replaced.
- 23. Replace damaged blades/cutters immediately. **DO NOT USE DAMAGED BLADES/CUTTERS.** They may cause bodily injury.
- 24. **DIRECTION OF FEED.** Feed work into the blade/cutter against the direction of rotation of the blade/cutter only.
- 25. DO NOT ALTER THE PLUG.

- 26. **NEVER LEAVE TOOL RUNNING UNATTENDED.** Turn power off. Don't leave tool until it comes to a complete stop.
- 27. Double Insulation eliminates the need for the three wire grounded power cord and grounded power supply system.

This power tool is supplied with all the relevant safety guards and features, it should be checked before every operation, this manual should be read and kept in a safe place. Whilst we warn of all the possible risks attached to using power tools any operator must have read and understood the manual and apply their own caution and common sense when using this power tool.

Following this guide will greatly reduce your risk of electric shock or injury.

Only use qualified repair agents to service this power tool.

Only use qualified electrician to repair any damaged wiring.

NEVER remove the grounding prong from the power tool or extension cord.

Additional safety Instructions

Cordless Angle Grinder

Wear hearing protection. Exposure to noise can cause hearing loss. Always wear eye protection.

Hold power tool by the insulated gripping surfaces, when performing an operation where the cutting tool may run into hidden wiring. Contact with a "live" wire will make exposed metal parts of the tool "live" and shock the operator.

When working with the machine, always hold it firmly with both hands and provide for a secure stance. The power tool is guided more secure with both hands.

Keep your workplace clean. Blends of materials are particularly dangerous. Dust from light alloys can burn or explode.

Always wait until the machine has come to a complete stop before placing it down. Before any work on the machine (e. g., maintenance, tool change, etc.) as well as during transport and storage, set the rotational direction switch to the centre position. Unintentional actuation of the On/Off switch can lead to injuries.

Avoid unintentional switching on. Ensure the On/Off switch is in the off position before inserting battery pack. Carrying the power tool with your finger on the On/Off switch or inserting the battery pack into power tools that have the switch on invites accidents. Do not open the battery. Danger of short circuiting.

Protect the power tool against heat, e. g., also against continuous sun irradiation and fire. There is danger of explosion.

In case of damage and improper use of the battery, vapors may be emitted. Provide for fresh air and seek medical help in case of complaints. The vapors can irritate the respiratory system.

When the battery is defective, liquid can escape and come into contact with adjacent components. Check any parts concerned. Clean such parts or replace them, if required.

Power Extension Cords

When using any extension cord the machine will suffer a power reduction due to the drop in voltage caused by the length of the cord. This can be partially offset by selecting extension cords with lower gauge wire.

Check all extension cords for damage before use.

Avoid sharp objects.

Do not position the cord where it could be subject to traffic passing over it.

Symbols

IMPORTANT: Some of the following symbols may be used on your tool.

Vvolts	
Aamper	es
Hzhertz	
~alterna	ating current
/mrevolu	tions per minute
class I	I construction (double insulated)
Kgkilogr	rams
n _o No loa	nd speed
(€ Confo	rms to European Harmonised New Approach Directives.
DC Direc	t Current

Battery use and care

A battery operated tool with integral batteries or a separate battery pack must be recharged only with the specified charger for the battery.

A charger that may be suitable for one type of battery may create a risk of fire when used with another battery.

Use battery operated tool only with specifically designed battery pack.

Use of any other batteries may create a risk of fire.

Hold the tool by its handle only. Because the tool operates by battery power, be aware of the fact that it can begin to operate at any time.

Charging the battery pack (Fig. 2)

Note: Newly purchased Batteries are not fully charged and must be charged before using in your cordless tool(s).

- 1. Plug the battery charger into the proper AC voltage source.
- 2. Insert the battery pack so that the ribs on the battery pack slide into the grooves on the battery charger. Insert the cartridge fully into the charger. (Fig.2)
- 3. When the battery pack is inserted, the Red LED will light, indicating the charger has started the charging cycle. A Green light will indicate the battery is completely charged and should be removed from the charger. (Fig.2)
- 4. After charging, unplug the charger from the power source.
- 5. Other tips for extending Battery life: Do not store batteries completely discharged. Charge them fully before storing.

Overload Protection

The power cutter is fitted with an overload/overheat protection device. When the tool is forced to work at an excessive load, the protection device will be activated automatically to disconnect the power supply. If this occurs, switch off the tool and switch on again to resume the work, make sure to apply only suitable workload to the tool. When the tool works under heavy load for a long period of time, the temperature of the tool or battery pack will increase significantly. The protection device will be activated at a preset temperature to protect both the tool and the battery. If this occurs, switch off the tool and wait until it cools down to ambient temperature and resume work.

Note: when the voltage of battery pack is dropped to 7.5V, the protection device will also be activated. In this case, remove the battery pack and fully charge it before reuse.

WARNING: Improper use of the battery or battery charger can lead to serious injury. To avoid these injuries:

- A) **NEVER** disassemble the battery.
- B) **NEVER** incinerate the battery, even if it is damaged or is completely worn out. The battery can explode in a fire.
- C) **NEVER** short-circuit the battery.
- D) **NEVER** insert any objects into the battery charger's air vents. Electric shock or damage to the battery charger may result.
- E) **NEVER** charge outdoors. Keep the battery away from direct sunlight and use only where there is low humidity and good ventilation.
- F) **NEVER** charge when the temperature is below 32°F (0°C) or above 104°F (40°C).
- G) **NEVER** connect two battery chargers together.
- H) **NEVER** insert foreign objects into the hole for the battery or the battery charger.
- I) **NEVER** use a booster transformer when charging.
- J) **NEVER** use an engine generator or DC power to charge.
- K) **NEVER** store the battery or battery charger in places where the temperature may reach or exceed 104°F (40°C).
- L) **ALWAYS** operate charger on standard household electrical power (230 volts). Using the charger on any other voltage may overheat and damage the charger.
- M) ALWAYS wait at least 15 minutes between charges to avoid overheating the charger.
- N) **ALWAYS** disconnect the power cord from its receptacle when the charger is not in use.

ADDITIONAL PRECAUTIONS FOR CHARGER & BATTERY PACK

- 1. Do not charge battery pack when temperature is below 10°C (50°F) or above 40°C (104°F).
- 2. Do not attempt to use a step-up transformer, an engine generator or DC power receptacle.
- 3. Do not allow anything to cover or clog the charger vents.
- 4. Always protect the battery terminals when the battery pack is not used.
- 5. Do not short the battery pack.
- 6. Do not touch the terminals with any conductive material.
- 7. Avoid storing battery cartridge in a container with other metal objects such as nails, coins, etc.
- 8. Do not expose battery pack to water or rain.

Warning! A battery short can cause a large current flow, overheating, possible burns and even a breakdown.

- 9. Do not store the tool and Battery pack in locations where the temperature may reach or exceed 50°C (122°F).
- 10. Do not incinerate the Battery pack even if it is severely damaged or is completely worn out. The battery pack can explode in a fire.
- 11. Be careful not to drop, shake or strike battery.
- 12. Do not charge inside a box or container of any kind. The battery must be placed in a ventilated area during charging.

Specific Safety Rules

- **1. Always use proper guard with grinding wheel.** A guard protects operator from broken wheel fragments when using grinding wheel attachments.
- 2. Accessories must be rated for at least the speed recommended on the tool warning label. Wheels and other accessories running over rated speed can fly apart and cause injury.
- 3. Hold tool by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring or its own cord. Contact with a "live" wire will make exposed metal parts of the tool "live" and shock the operator.
- 4. When using depressed center grinding wheels, be sure to use only fiberglass-reinforced wheels.
- 5. Always use safety glasses or goggles.
- 6. Check the wheel carefully for cracks or damage before operation. Replace cracked or damaged wheel immediately. Run the tool (with guard) at no load for about a minute, holding tool away from others. If wheel is flawed, it will likely separate during this test.

7. NEVER use tool with wood cutting blades or other saw blades. Such blades when used on a

grinder frequently kick and cause loss of control leading to personal injury.

- 8. Make sure cord is clear of wheel. Do not wrap cord around your arm or wrist. If control of tool is lost, cord may become wrapped around you and cause personal injury.
- **9.** Always use auxiliary handle for maximum control over torque reaction or kick-back. Operation of the grinder without the side handle could cause loss of control of the grinder, resulting in possible serious personal injury.
- 10. Do not use a grinding wheel that is larger than the maximum recommended size for your tool, or worn down damaged wheels from larger grinders.

Unpacking

Carefully remove the product and any accessories from the box. Make sure that all items listed in the packing list are included.

Package contents

- A) 12V cordless Angle Grinder
- B) 1 hour fast Charger
- C) User manual
- D) 1 pcs wrench, 3 pc cutting disc and 3 pc grinding disc

Functional Description (Fig. 1)

WARNING: Remove battery pack before making any assembly, adjustments or changing accessories. Such preventive safety measures reduce the risk of starting the tool accidentally.

This angle grinder is designed for the following purposes:

- 1. Removal of casting burrs and finishing on various types of steel, bronze, aluminum materials and castings.
- 2. Beveling and finishing weld seams
- 3. Grinding of welded sections cut by means of welding.
- 4. Grinding of synthetic resin bricks, marbles etc.
- 5. Cutting thin wall tubes and small size metal materials.

CAUTION! Never cover air vents. They must always be open for proper motor cooling.

Operation

CAUTION! Always be sure that the tool is switched off before assembly, including insertion or removal of the battery pack.

Installing or removing battery pack.

- 1. To remove the battery pack, withdraw it from the tool while depressing the tabs (Fig.2) on both sides of the battery pack.
- 2. To insert the battery pack, align the ribs on the top of the battery with the grooves in the housing and slide it into place. Always insert it all the way until it locks in place with a little click. Lightly pull on the battery pack to ensure it is locked into place and will not accidentally fall out of the tool, causing an injury.
- 3. Do not use force when inserting the battery pack. If the battery does not slide in easily, it is not being inserted correctly.

Installing the Grinding Wheel (Fig. 3, 4)

- 1. Depress and hold down the spindle lock. (Fig.4) To prevent damage to spindle or spindle lock, always allow motor to come to a complete stop before engaging spindle lock.
- 2. Remove the outer flange with spanner turning in anti-clockwise direction. Do not remove the inner flange.
- 3. Make sure the slot on the inner flange is engaged with the square neck of the spindle.
- 4. Place the grinding wheel over the spindle with the depressed center against the inner flange (see Fig.3).
- 5. Depress and hold down the spindle lock again, mount the outer flange and securely tighten it with spanner provided clockwise. Do not over tighten it.

Adjusting the Wheel Guard (Fig. 3)

This tool is fitted with a wheel guard. The closed segment of the guard can be adjusted to different angles.

- 1. Pull the quick release lever toward outside (Fig.1-3) so as to enlarge the circular collar of wheel guard.
- 2. Turn the wheel guard to a desired angle. (Fig.3) Pull back the quick release lever to lock the guard.
- 3. Make sure the guard is firmly secured in place. If the guard is too loose after pulling back the quick release lever, pull up the lever, properly adjust the nut on the guard and pull back the lever again.

Switching on and off

To start your grinder:

- 1. Push the switch button forward to start the tool. (Fig.1-5)
- 2. For continuous operation, push the switch button forward to the end, press the switch button at its front and gently release it so that it is locked at "ON" position.

To stop your grinder:

1. Release the ON/OFF switch when the switch button is not locked at "ON" position. Or press at the end of the switch button to make it spring back when the switch button is locked at "ON" position.

LED Capacity indicator: (Fig. 2)

All three LED's are on > 90% Two LED's are on > 60% One LED is on ≤ 30%

Once only the one LED is lit, the battery must be re-charged.

Disposal of the exhausted battery

WARNING: Do not dispose of the exhausted battery. The battery must explode if it is incinerated. The product that you have purchased contains a rechargeable battery. The battery is recyclable. At the end of its useful life, under various state and local laws, it may be illegal to dispose of this battery into the municipal waste stream. Check with your local solid waste officials for details in your area for recycling options or proper disposal.

Disposal

Power tools, accessories and packaging should be sorted for environmentally-friendly recycling. **Only for EC countries**:



Do not dispose of power tools into household waste!

According to the European Directive 2002/96/EC on waste electrical and electronic equipment and its incorporation into national right, products that are no longer suitable for use must be separately collected and sent for recovery in an environmentally-friendly manner.

Battery packs/batteries:



Li-Ion:

Do not dispose of battery packs/batteries into household waste, water or fire. Battery

packs/batteries must be collected, recycled or disposed of in an environmentally-friendly way.

Only for EC countries:

Defective or dead batteries must be recycled according to the directive 2006/66/EC.

Maintenance

Use only a dry, soft cloth for wiping the unit. Do not use a damp cloth, thinner, or other volatile solvents for cleaning.

Accessories

CAUTION: Use only accessories or attachments recommended for use with your Terratek tool specified in this manual. The use of any other accessories or attachments might present a risk of injury to persons. Only use accessory or attachment for its stated purpose.

General Maintenance

- 1. Keep the air vents free from obstruction and clean regularly.
- Check regularly for any dust particles entering the grills around the motor and the switch.Use a soft brush to remove any dust particles. Wear safety glasses to protect your eyes whilst cleaning.
- 3. Monitor the dust bag (if equipped) and empty when approximately half full. Always empty into an appropriate container. REMEMBER: dust can be hot and cause fire.
- 4. If the sand paper has become dull, replace it. Dull sand paper will cause increased tear-out and ragged edges on the cuts.
- 5. Lubricate all moving parts at regular intervals.
- 6. To clean the body of the power tool, only use a dry soft cloth. Do NOT immerse in water. Do not use any petrol or any alcohol based product.
- 7. Should the power cord become damaged only allow a fully qualified electrician to replace or repair.

Declaration of Conformity

We ACL Group (Intl.) Ltd, England DN6 8LZ declare that the cordless Angle Grinder has been manufactured according to our full quality assurance procedures.

The declaration is to certify that it conforms to CE, EMC, MD and RoHS directives:

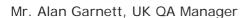
EN55014-1/A1: 2009 EN55014-2/A2: 2008

All provisions of Annex 1 of Council Directive 2004/108/EC - EMC directive

EN60745-1/A11: 2010 EN60745-2-3: 2011

All provisions of Annex 1 of Council Directive 2006/42/EC – Machinery Directive RoHs 2011/65/EU.





Environmental Protection

RECYCLING: WASTE ELECTRICAL PRODUCTS SHOULD NOT BE DISPOSED OF WITH HOUSEHOLD WASTE. PLEASE RECYCLE WHERE FACILITIES EXIST. CHECK WITH YOUR LOCAL AUTHORITY OR RETAILER FOR RECYCLING ADVICE.



Please read the following carefully

ACL Group (Intl) Ltd. and/or it's distributor has provided the parts list and assembly diagram as a reference tool only. Neither ACL Group (Intl). Ltd. or its distributor makes any representation or warranty of any kind to the buyer that he or she is qualified to do any repairs or replace any parts of this product. ACL Group (Intl) Ltd. and its distributor expressly state that all repairs or parts replacement should be done by certified or licensed technicians. The buyer assumes all risk and liability arising out of his or her repairs or parts replacement to the original product.

12 Months Limited Warranty

If within 12 months from the date of purchase you experience any problems with your product, please return the product to its distributor/dealer for repair or replacement. This warranty **DOES NOT COVER** normal wear, or any damage as a result of accidents, misuse, abuse or negligence.

ACL Group (Intl) Ltd Doncaster, England

Email: info@terratekintl.com

www.terratekintl.com